



PATENT APPLICATION

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of

Toshiro HAYAKAWA

Appln. No.: 09/779,586

Confirmation No.: 6818

Group Art Unit: 2881

Filed: February 09, 2001

Examiner: Cecil B. Harmon

For: LASER APPARATUS INCLUDING SURFACE-EMITTING SEMICONDUCTOR
EXCITED WITH SEMICONDUCTOR LASER ELEMENT, AND DIRECTLY
MODULATED

AMENDMENT UNDER 37 C.F.R. § 1.111

Commissioner for Patents
Washington, D.C. 20231

Sir:

In response to the Office Action dated December 19, 2001, please amend the above-
identified application as follows:

IN THE SPECIFICATION:

The specification is changed as follows:

Paragraph bridging pages 11 and 12:

Initially, an n-type GaAs buffer layer 12, an n-type GaAs/n-type $\text{Al}_{0.7}\text{Ga}_{0.3}\text{As}$ multilayer
optical filter 13, a n-type GaAs optical confinement layer 14, an undoped GaAs/ $\text{In}_{0.2}\text{Ga}_{0.8}\text{As}$
multiple-quantum-well active layer 15, a p-type GaAs optical confinement layer 16, a p-type
 $\text{Al}_{0.7}\text{Ga}_{0.3}\text{As}$ carrier confinement layer 17, and a p-type GaAs cap layer 18 are formed on an n-
type GaAs (001) substrate 11 by organometallic vapor phase epitaxy. The lowest sublayer of the
n-type GaAs/n-type $\text{Al}_{0.7}\text{Ga}_{0.3}\text{As}$ multilayer optical filter 13 is an AlGaAs layer. Next, a SiO_2

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